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ABSTRACT

The management of the cost of post-retirement health benefits (PRHBs) for retirees is a major concern to American corporations because of a declining commitment to the Medicare program by the federal government, new proposed accounting rules that will change the financial treatment of PRHBs, and a growing retiree population. This study was conducted to identify the major predictors of corporate benefit officers' perceptions about recent cost containment efforts. Survey data were obtained from a recent Equicor Health Care Survey (1986) of corporate benefit officers. The study examined (1) the factors accounting for effective organizational control of retiree health benefits, and (2) the profile of an effective organization in containing costs for the post-retirement program evaluation of 71 mothers previously served by TAP organizations that applied more cost-cutting and cost-shifting as well as changing PRHB designs may find those strategies an effective response to financial and competitive pressures. The perceived effectiveness of cost control was unrelated to the amount of coverage change in redesigning benefit plays, nor was it related to organizational size, type of industry, fiscal planning practice, or regional location. (Author/NB)

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EFFECTIVENESS OF STRATEGIES TO CONTAIN COSTS OF THE POST-RETIREMENT HEALTH BENEFIT PROGRAM*

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EFFECTIVENESS OF STRATEGIES TO CONTAIN COSTS OF THE POST-RETIREMENT HEALTH BENEFIT PROGRAM

Summary

The primary purpose of this study was to identify the major predictors of corporate benefit officers' perceptions about recent cost containment efforts. Survey data were obtained from a recent Equicor Health Care Survey (1986) of corporate benefit officers. The study examined the following areas: a) the factors accounting for effective organizational control of retiree health benefits; and b) the profile of an effective organization in containing costs for the post-retirement health benefit program (PRHBP).

The results show that organizations that apply more cost-cutting and cost-shifting as well as changing PRHB designs may find those strategies an effective response to financial and competitive pressures. The perceived effectiveness of cost control was unrelated to the amount of coverage change in redesigning benefit plans, nor was it related to organizational size, type of industry, fiscal planning practice, or regional location.

EFFECTIVENESS OF STRATEGIES TO CONTAIN COSTS OF THE POST-RETIREMENT HEALTH BENEFIT PROGRAM

INTRODUCTION

The management of the cost of post-retirement health benefits (PRHBs) for retirees is a major concern to American corporations because of a declining commitment to the Medicare program by the Federal government, new proposed accounting rules that will change the financial treatment of PRHBs, and a growing retiree population. It is important to have a thorough understanding of what determines corporate effectiveness in health benefit design and cost containment for retirees so successes can be replicated and the sponsors of PRHBs do not feel unduly burdened with inefficient and costly health benefit plans. In the face of domestic and international competition, American corporations could dramatically alter their future support of retiree health benefits unless they know they are getting good value for money spent.

This study aims to identify the relationship between organizational factors and the effectiveness of the organizational context within which the benefit options were developed. Using a structural equation modeling approach, we constructed an analytical model for explaining the relationship between contingency factors and corporate benefit officers' perceived effectiveness in containing costs of post-retirement health benefit programs (PRHBs).

In this analysis, organizational and environmental contingencies are the exogenous variables, and effective cost-containment of PRHBs is the endogenous latent variable. While the organization cannot directly control the environmental contingencies, it can control its design and choice of cost-containment strategies to minimize its financial burden. The analysis aims to

identify how PRHB cost-containment is affected by a company's structure, environment, cost control vehicles, and choice of benefit design options.

LITERATURE REVIEW

The development of PRHBs can be traced through pension plans' evolution. In fact as many varieties of health benefit programs have developed as there are corporate organizations. Yet little is known about varying organizational effectiveness in benefit design and cost control, even though both public and private sectors are now eager to find ways of ensuring reasonable retirement health coverage.

Several definitions of effectiveness have been offered in the literature: (1) the extent to which an organization has attained measurable goals (Georgopoulos and Tannenbaum, 1957; Van De Ven and Ferry, 1980); (2) how well or how much better the organization is performing as assessed by its different constituencies (Connolly et al., 1980); (3) the result of internal consistency among design parameters that are responsive to environmental pressures (Mintzberg, 1979); and (4) the maximization of energic return to the organization and the growth, storage, survival and control of the environment over the long term (Katz and Kahn, 1966).

Assessment of organizational effectiveness requires appropriate conceptualization of the organization. Research conducted under various conceptualizations has focused on different phenomena, has proposed different relationships among variables and has judged performance differently (Cameron and Whetten, 1983; Cameron, 1984). Most of the extensive literature on organizational effectiveness has focused on factors affecting performance. A greater focus on the relationships among an organization's environment, its design and its performance is needed.

Organizations pursue multiple goals, use multiple inputs and generate varying outcomes. Thus in assessing their effectiveness, it is imperative to examine multiple organizational domains (Weick and Daft, 1982). Kilmann and Herden (1976) assessed organizational effectiveness and efficiency with respect to organizational goals using a framework of four generic concepts: (1) internal efficiency, (2) external efficiency, (3) internal effectiveness, and (4) external effectiveness. Each domain can be carefully evaluated by a different type of systematically observed data. For example, for the goal of containing PRHB costs, internal effectiveness can be measured by corporate benefit officers' perceived effectiveness, whereas external effectiveness would be judged by how beneficiaries assess the benefit programs.

According to organization research literature, effectiveness can be explained by examining an organization's structure, its environment, and its design and control mechanisms (Bourgeois, 1980; Mills and Margulies, 1980; Van De Ven and Ferry, 1980; Daft, 1983; Kimberly et al., 1983; Scott and Shortell, 1983; Georgopoulos, 1986; Wan, 1987). If performance variation can be identified with structural and design variables, changes can be planned accordingly for maximum effectiveness.

Careful search of the scientific literature on retirement has found no empirical study identifying how organizations' structures and their design choices influence their effectiveness in containing PRHB costs. The present study attempts to fill the gap and to systematically identify the determinants of organizational effectiveness in containing PRHB costs.

METHODS

The data for this study were obtained from the Equicor Health Care Survey VI collected during June, July, and August of 1986 by Louis Harris and

Associates. The telephone interview survey provided baseline information about the prevalence of employer-provided retiree health plans and about their problems of current and future costs. Additional information was collected on present and proposed management efforts to control retiree health costs, and on their effectiveness. Five hundred corporate benefits officers from a systematic sample of corporations with 500 or more employees were interviewed.

The sample for this analysis contained only 190 organizations which had identified themselves as using a particular PRHB. Three analytical phases were used. First, a measurement model for cost containment strategies, benefit designs and cost-control mechanisms was developed to examine the relationship among selected indicators of those program operations. Second, a structural equation model, assuming structural relationships between organizational factors and effectiveness, was evaluated by the goodness-of-fit statistics derived from the Linear Structural Relations (LISREL) analysis. This procedure validated the causal relations between organizational factors and organizational effectiveness. Finally, we used Automatic Interaction Detector analysis (Sondquist, Baker, and Morgan, 1973) as a multivariate statistical method to identify the specific subgroups of companies most likely to be perceived as effective in controlling PRHB costs. This technique is based on one-way analysis of variance and employs a non-symmetrical branching technique to divide the sample into a series of mutually exclusive subgroups.

Measures:

The study variables for LISREL analysis included as follows:

1. Dependent Variable: Organizational Effectiveness.

This is a latent variable measured by the corporate benefit officers' responses to two questions about their effectiveness in changing benefit plans

and containing costs: (1) Overall, how effective do you think that the changes you have made are-- or will be-- in helping you to control your health care costs for retirees: very effective, somewhat effective, not very effective, or not at all effective? (2) In the past three years, how much would you say that you have changed your health care plans for people who have already retired in order to contain health care cost inflation--a great deal, somewhat, not much, or not at all? The responses were assigned scores ranging from 1 (the least) to 4 (the most effective) and used to develop a measurement model of effectiveness: overall perceived effectiveness (Y_1) and the extent of health plan changes for containing costs (Y_2).

2. Exogenous (Predictor) Variables:

These included both latent constructs (unobservable) and observed variables. The four latent variables are: (1) redesign of health benefit coverage (measured by increased PRHBs and by relaxed eligibility criteria for them); (2) comprehensiveness of coverage (measured by the availability of Medicare Carve Out and Medicare Supplemental plans); (3) cost-shifting strategies for PRHBs (increased health insurance premiums, required deductibles paid by retirees, increased deductibles, required copayments, increased size of copayments); and (4) cost-cutting strategies (second opinions and utilization review). Other exogenous variables were organizational size (number of employees), regional location of the company (South coded as 1 and other regions coded as 0), industry type (service industry coded as 1 and others 0), and the company's pay-as-you-go practice in financing retiree health benefits.

Model Specifications:

LISREL, a full-information, maximum-likelihood program, was used to

estimate the model (Joreskog and Sorbom, 1983). Figure 1 is a diagram of the measurement model of cost-containment strategies, which consists of four dimensions: redesign of benefit coverage (ξ_1), comprehensiveness of coverage (ξ_2), use of cost-shifting strategies (ξ_3), and use of cost-cutting strategies (ξ_4). These factor dimensions have 2, 2, 5, and 2 observable indicators respectively (X_1 through X_{11}). The phis (ϕs) refer to the variance and covariance of the dimensions. The lambdas (λs) refer to the factor loadings. The deltas (δs) refer to measurement errors associated with observable indicators.

(Insert Figures 1 and 2 about here)

Figure 2 presents a structural equation model for the causal analysis. The diagram shows the effects of cost-containment strategies on perceived effectiveness in containing PRHB costs when effects of organizations' structural and environmental factors are simultaneously controlled. Several assumptions were made in order to derive an acceptable causal model: (1) four exogenous latent variables are correlated; (2) each exogenous latent variable has a direct causal effect on the endogenous variable, organizational effectiveness; (3) the exogenous latent variables are related to other, observable, exogenous variables - region, size, industry type, and company practice. In the analysis, correlated measurement errors were introduced and tested. Parameter estimates were made by using a covariance matrix as data input to the LISREL program.

RESULTS

The presentation of results is divided into three sections. First, the goodness-of-fit of the measurement model for cost-containment strategies is

evaluated. Second, the causal effects of cost-containment strategies on organizational effectiveness are assessed. Then, the profile of most effective organizations is portrayed by AID analysis.

Goodness-Of-Fit of the Measurement Model:

Confirmatory factor analysis was employed to examine the goodness-of-fit of the four related latent constructs that served as variables reflecting cost-containment strategies. Table 1 presents the standardized maximum-likelihood estimates of parameters (factor loadings and correlations among four factor dimensions). Overall, the relative likelihood ratio (X^2/df) is 0.86. The adjusted goodness-of-fit index is 0.901. Thus the proposed measurement model adequately fits the data.

(Insert Table 1 about here)

Examination of the factor loadings for each factor dimension shows that the most dominant observed indicators were, in descending order: (1) relaxed eligibility criteria (X_2); (2) Medicare Carve-out plan (X_3); (3) increase in copayments (X_9); and (4) utilization review (X_{11}). The correlations (Φs) show that only two coefficients were statistically significant. A strong positive association (Φ_{21}=0.77) existed between redesign of benefit coverage and comprehensiveness of coverage. A weak but statistically significant positive association was observed between redesign of benefit coverage and use of cost-shifting strategies (Φ_{31}=0.15). Interesting enough, there was only a negligible association between the use of cost-shifting and of cost-cutting, meaning that companies employed cost-shifting and cost-cutting strategies as independent cost-containment mechanisms. These findings suggest that the corporations selected in our study did not concomitantly employ cost-shifting

and cost-cutting strategies in containing costs for the retiree health benefit program. The implementation of benefit design strategies did not coincide with the use of cost-shifting and cost-cutting strategies.

Structural Equation Model:

Table 2 summarizes results of the covariance structural analysis of organizational effectiveness, showing the direct causal effect of each exogenous variable on cost-containment. Of the eight predictor variables included in the equation, only three were statistically significant. They were the use of cost-shifting strategies, the use of cost-cutting strategies,

(Insert Table 2 about here)

and organizations' classification in the service industry. When the effects of other structural and environmental variables were simultaneously controlled, both cost-shifting and cost-cutting had a strong positive effect on cost-containment. Companies in the service industry appeared to be more effective in containing costs than in other categories. The eight predictor variables, both observed and unobserved (latent), accounted for 38.6 percent of the total variance in organizational effectiveness.

AID Analysis:

To tease out the interaction effects of cost-containment strategies and organizational factors on organizational effectiveness, AID analysis was performed with perceived effectiveness (Y1) as a dependent variable, scored from 1 (lowest) to 4 (highest), using organizational structural factors and cost-containment strategies as explanatory variables. Figure 3 shows the predictor tree. The amount of changes in health benefit plans is the strongest contributor to the variance in perceived effectiveness.

(Insert Figure 3 about here)

Benefit change divides the total sample into two subgroups. The first group (Group A) has made considerable changes in health plans (mean effectiveness score of 3.29); the second group (Group B) had fewer changes (mean score of 3.02). Group B was further divided by the use of second opinions as a cost-cutting strategy: Those that did not utilize second opinions to cut costs had a mean effectiveness score of 2.48; those that did formed two new subgroups according to organizational size. Group C, companies using second opinions which had 1,000-7,500 employees had a mean score of 2.93. Among the organizations with either a small (under 1,000) or a large (7,501+) number of employees, Group D, which showed few or no changes, had a mean score of 3.00 and Group E, which showed some change, had a score of 3.28.

Thus the AID analysis produced five mutually exclusive subgroups (Groups A-E). The subgroup with the highest mean score on perceived effectiveness was Group A, in which numerous changes in health plans had been implemented. The organization with the lowest score was Group B, which had made little or no changes in health plans and had not implemented cost-cutting strategies, i.e. the use of a second opinion or utilization review. The predictor tree revealed statistical interactions among three predictor variables: the amount of change in health plans, the use of second opinions, and organizational size. These three variables accounted for a total of 12.8 percent of variance in perceived effectiveness in cost containment.

CONCLUSIONS

Little is known about the effect of cost-containment strategies on organizational effectiveness in controlling PRHB costs. In our study,

organizational effectiveness was defined by an organization's ability to contain PRHB costs and by the amount of change it makes to try to do so. The organization was the unit of analysis, and our focus was not goal attainment but organizational behavior.

The companies in the Equicor sample applied many cost containment efforts to their retiree health benefits. They redesigned the benefits covered and changed the eligibility for coverage, which we categorized as redesign of benefit coverage. Several types of coverage: carve out, supplemental, exclusion, and fixed allowance plans were observed in the survey; when they changed, we characterized it as a change in the comprehensiveness of coverage. When a company either increased the retiree's share of premiums, increased deductibles, or increased copayments we called this cost shifting. Finally, the use of second surgical opinion programs and utilization review were termed cost cutting. All these approaches to cost containment were examined in a comprehensive statistical model in which they were used to explain the degree to which the corporate benefit manager felt they were effective. In other words, of the four categories of cost containment efforts, which ones seemed to lead to results--from the organization's point of view?

In our analysis, cost containment was considered a theoretical construct reflected by design and cost-control strategies. The eleven indicators for cost containment strategies were clustered into four latent variables: redesign of coverage, comprehensiveness of coverage, cost-shifting strategy, and cost-cutting strategy. The results showed that companies' PRHB design strategies were closely related, but cost-shifting and cost-cutting strategies were not related, i.e., the companies did not make use of cost-cutting and cost-shifting concomitantly. That suggests that the corporations studied have

not used the full range of strategies for controlling PRHB costs.

In our study the influences of many factors were statistically controlled. Not only were the four major categories of cost containment strategies assessed in terms of their effectiveness; but several organizational characteristics were also incorporated as important control variables. When the effects of design and cost-containment strategies on effectiveness in cost control were investigated using a structural equation modeling approach, design strategies were found not as effective as cost-shifting and cost-cutting strategies. Moreover, the eight organizational or environmental variables exerted only modest influence on perceived effectiveness. They accounted for a reasonable amount (R^2= .386) of the variance. However, a large residual variance remains to be explained by other organizational factors such as domain consensus, market competition for manpower, and organizational goals.

The analysis also revealed that, from a management perspective, cost shifting and cost cutting approaches were viewed as more effective in containing cost of PRHBs than was anything else. Cost shifting, perhaps the most direct and easily administered change for corporate cost containment, was perceived as the most effective. Redesign of benefit coverage and changes in the comprehensiveness of coverage were not at all statistically associated with organizational effectiveness for cost containment of PRHBs.

In an attempt to control rising costs of PRHBs, employers have tried many responses. Our analysis eliminated some of those efforts as not important for defining categories of cost containment, and then formed four major categories of cost containment. The fact that among those categories only cost shifting and cost cutting efforts were important determinants of organizational

effectiveness has important implications.

1. Cost shifting does not address the underlying problem; it merely shifts the burden of the problem to the retiree. Thus, while benefit managers may feel they have solved a health benefit cost problem for their organization, they may not have kept the promise that PRHBs were expected to provide. In the long run, not only retirees but also the companies should view it as a matter of concern if the underlying reasons for rising costs are not addressed. Management and control-oriented companies are better equipped and organized than retirees to contain health care costs. But if companies define organizational effectiveness in effect as "passing the buck," then they are not using that comparative advantage to the fullest. The exception is when cost-sharing changes in the form of deductibles and copayments are used to address perceived abuses in the use of services. In any case, retirees can work to educate employers about their relatively stronger abilities to put in place programs to cut costs rather than just to shift costs to the retiree and watch the benefits wither.

2. The importance of cost cutting measures, represented in this study by second opinion programs and utilization review, should not go unnoticed. Few can object to programs that reduce or eliminate unnecessary services and lower health benefit costs. Clearly, cost-cutting measures emerged in our study as important determinants of perceived organizational effectiveness that ought to be pursued.

3. Redesign of benefits and changes in the comprehensiveness of benefits were not important at all and could be viewed as unnecessary activity with no apparent influence on the goal of cost containment.

In conclusion, the results do confirm the strategic impact of cost-

containment mechanisms: organizations that apply more cost-cutting and cost-shifting, as well as changing PRHB designs, may find those strategies an effective response to financial and competitive pressures. The perceived effectiveness of cost control was unrelated to the amount of coverage change in redesigning benefit plans, nor was it related to organizational size, type of industry, fiscal planning practice, or regional location. But the study underscores the importance to management of cost-cutting and cost-shifting strategic choices to contain costs and keep PRHB plans workable.

Much of the organizational behavior that arises in competitive environments may reflect lack of knowledge about workable organizational strategies. The data and analyses on organizational strategies and their effects on cost containment presented here are relatively new to organizational researchers. The further question of whether cost-containment strategies are used appropriately for the best possible performance under fiscal restraints warrants future research.

Much remains to be learned about how corporate health benefit officers select a particular strategy for containing costs. The possibility that retirees' points of view influence benefit design and cost-control strategies may explain firms' choices of strategy, and deserves further research. This study also demonstrates that the links between cost-containment strategies and perceived effectiveness in benefit design and cost control are a fruitful area of organizational research.

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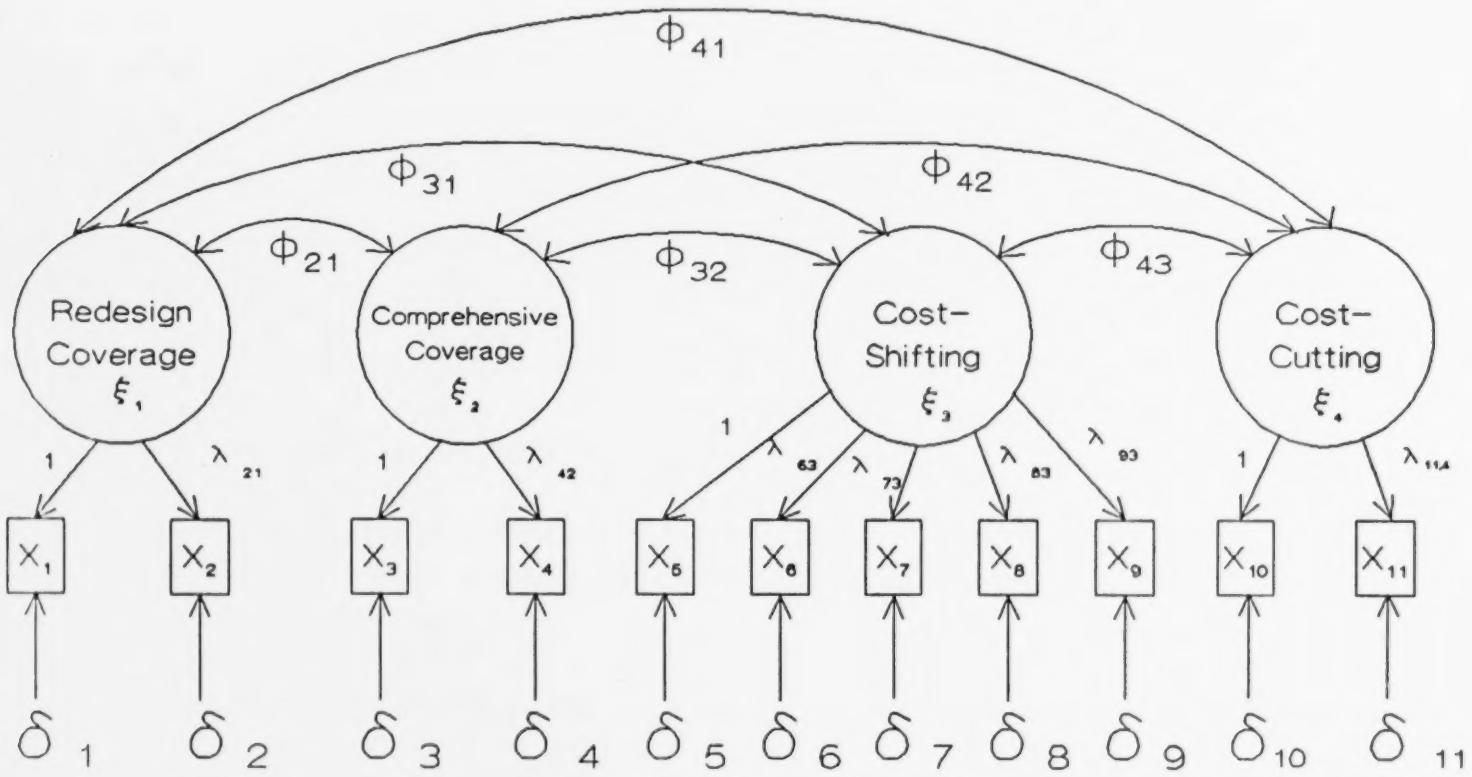
Figure 1. The Measurement Model of Cost-Containment Strategies



Notes:

X_1 Increased Benefit
X_2 Relaxed Eligibility
X_3 Medicare Carve Out
X_4 Medicare Supplement
X_5 Increased Premiums
X_6 Deductibles
X_7 Increased Deductibles
X_8 Copayments
X_9 Increased Copayments
X_{10} Second Opinions
X_{11} Utilization Review

Figure 2. Causal Model of the Effect of Cost-Containment Strategies and Organizational Factors on Effectiveness

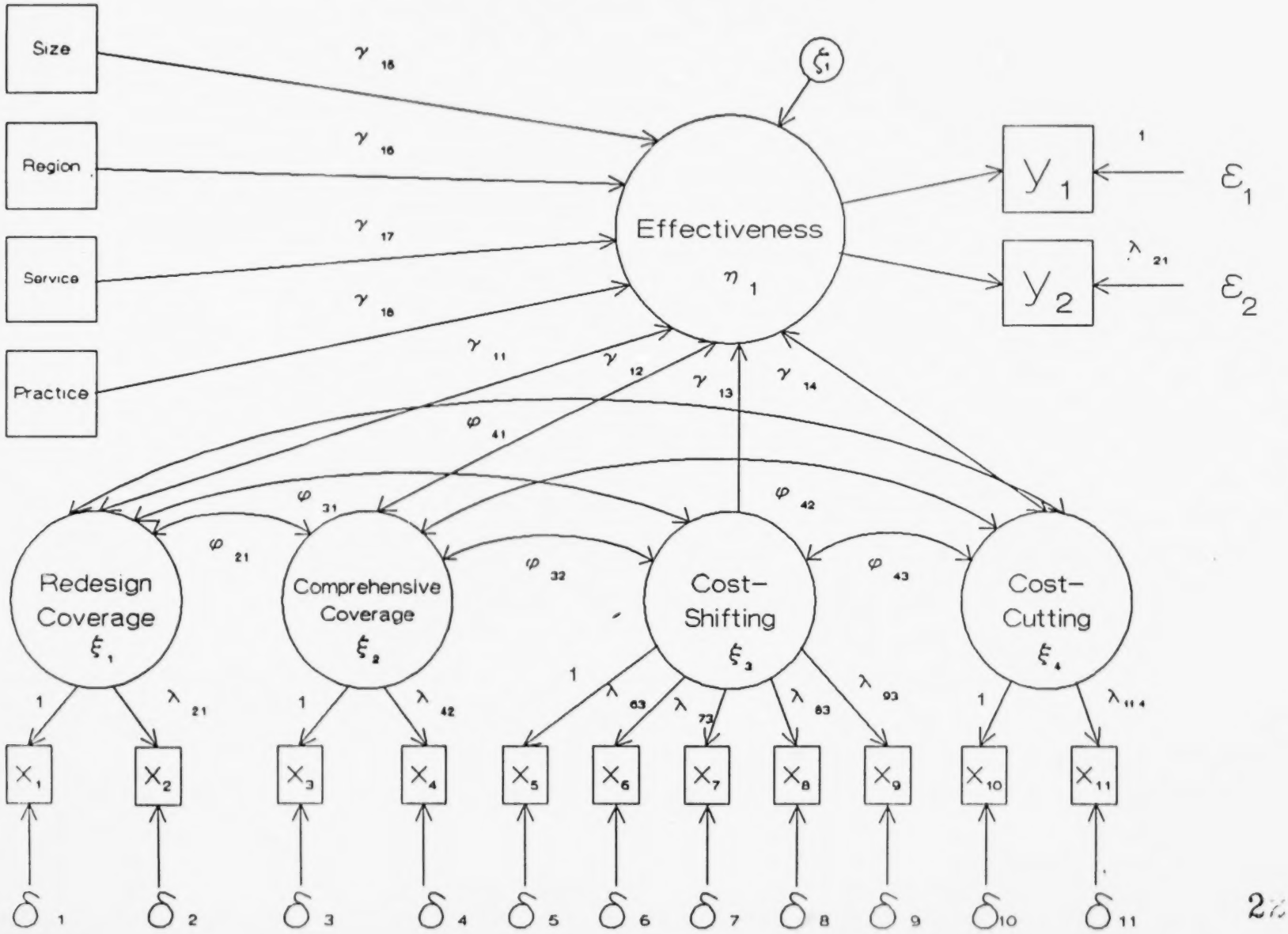


Figure 3. The AID Predictor Tree for Identifying Organizational Effectiveness in Containing Costs for Retiree Health Benefits

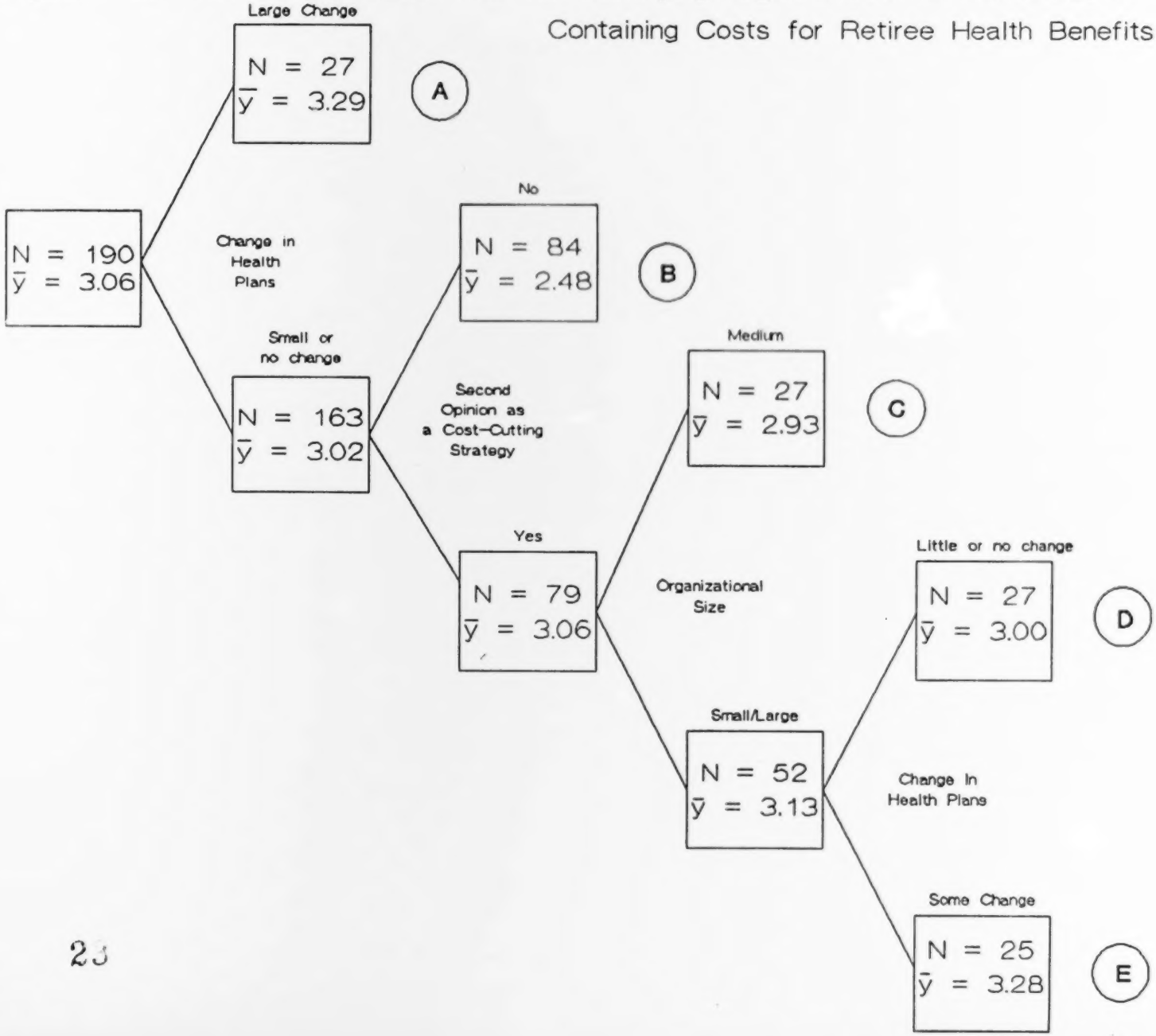


Table 1. Confirmatory Factor Analysis of Cost-Containment Strategies: Standardized Parameter Estimates (N=190)

Indicators	Benefit change (ξ_1)	Comprehensive coverage (ξ_2)	Cost-shifting (ξ_3)	Cost-cutting (ξ_4)
Factor Loading (LX):				
Increased benefit (X_1)	.820*			
Relaxed eligibility (X_2)	.931*			
Medicare carve out (X_3)		.844*		
Medicare supplement (X_4)		.435*		
Increased premiums (X_5)			.511*	
Deductibles (X_6)			.540*	
Increased deductibles (X_7)			.610*	
Copayments (X_8)			.604*	
Increased copayments (X_9)			.663*	
Second opinions (X_{10})			.270*	.377*
Utilization review (X_{11})				.982*
Correlations (Φ):				
1	1.000			
2	.770*	1.000		
3	.150*	-.010	1.000	
4	.028	.007	.081	1.000
Measurement Errors (θ_δ):				
X_1	.341*			
X_2	.141			
X_3		.290*		
X_4		.811*		
X_5			.791*	
X_6			.717*	
X_7			.638*	
X_8			.646*	
X_9			.573*	
X_{10}			.774*	
X_{11}			.035	

Notes: * Significant at 0.05 or lower level.
X^2 = 37 with 43 degrees of freedom (P=.728).
Goodness-of-fit (GOF) index = .966.
Adjusted GOF index =.901.
Two significant correlated measurement errors are TD $_{3,1}$ (.180) and TD $_{8,6}$ (.211).

Table 2. Standardized Parameter Estimates for the Structural Equation Model of Organizational Effectiveness in Cost Containment for Retiree Health Benefits (N=190)

Exogenous Variables	Endogenous Variable: Direct effect	T-value
X_1 (Redesign Benefit Coverage)	.054	.267
X_2 (Comprehensive Coverage)	-.100	-.482
X_3 (Cost-Shifting)	.489	5.786*
X_4 (Cost-Cutting)	.300	3.414*
X_5 (Organization Size)	-.048	-.636
X_6 (Regional Location: South)	-.058	-.902
X_7 (Service Industry)	.149	2.310*
X_8 (Pay-As-You-Go Practice)	-.101	-1.556
R^2	.386	
X^2 with 97 degrees of freedom	100.18	(p=.392)
Goodness-of-fit index	.944	
Adjusted GOF index	.846	

* Significant at 0.05 or lower level.